



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

APPLICATION FOR SURFACE WATER USE PERMIT
FOR EXISTING USE IN THE NA WAI EHA, MAUI, SURFACE WATER
MANAGEMENT AREAS

FORM SWUPA-E (NA WAI EHA, MAUI)

For detailed instructions on filling out this application, refer to the attached instructions.

ORIGINAL

For Official Use Only:
RECEIVED
COMMISSION ON WATER
RESOURCE MANAGEMENT

2009 APR 22 AM 8:13

Event ID:

APPLICANT INFORMATION: Note: In accordance with §174C-51(1)(B), HRS, *In the event a lessee, licensee, developer, or any other person with a terminable interest or estate in the land, which is the water source of the permitted water, applies for a water permit, the landowner shall also be stated as a joint applicant for the water permit.*

1. APPLICANT'S NAME Wailuku Water Company		Applicant's Contact Clayton Suzuki		2. SOURCE LANDOWNER'S NAME Wailuku Water Company		Source Landowner's Contact Clayton Suzuki					
Applicant's Mailing Address, or Principal Place of Business 255 East Waiko Road Wailuku, HI 96793				Source Landowner's Mailing Address, or Principal Place of Business 255 East Waiko Road Wailuku, HI 96793							
Applicant's Phone 808-244-2208		Applicant's Fax 808-242-7068		Applicant's E-mail csuzuki@wailukuwater.com		Source Landowner's Phone 808-244-2208		Source Landowner's Fax 808-242-7068		Source Landowner's E-mail csuzuki@wailukuwater.com	

EXISTING SOURCE INFORMATION

The following must be attached before this application is accepted as complete:

- Portion of 7.5-Minute Series USGS topographic map (scale 1:24,000) labeled with stream and diversion locations and quad map name.
- Property Tax Map Key (TMK), showing stream or diversion location, and location of water use referenced to established property boundaries.
- Photograph(s) of the surface water diversion works and end use.

3. SURFACE WATER HYDROLOGIC UNIT AND CODE: ☒ Waihee/6022 ☒ Waiehu/6023 ☒ Iao/6024 ☒ Waikapu/6001

4. DIVERSION LOCATION: Choose the appropriate category and enter information in either 4a or 4b.

4a. TMK OF STREAM DIVERSION LOCATION: See Exhibit A

4b. TMK OF DITCH DIVERSION LOCATION: See Exhibit A

5. STREAM DIVERSION: How is water diverted from the stream to your property? Check all that apply.

☐ Pipe ☐ Pump ☒ Ditch/auwai ☐ Other Describe:

Is the diverted water returned to the stream or ditch? ☐ Yes. ☒ No. If yes, how much water is returned?

6. FLOW MEASUREMENT INFORMATION:

Does the stream diversion have a flowmeter with totalizer or other device to measure diverted amounts?

☒ Yes. Enter the installation date: See Exhibit A

Describe the device and enter measured amounts in Table 1.

☐ No. Explain how you are measuring flow to justify amounts shown in Table 1 in the space below

EXISTING USER INFORMATION

7. APPURTENANT RIGHT: Do you claim an appurtenant right for your water use? ☒ Yes ☐ No

If yes, has the appurtenant right been established by the courts or the Commission? ☐ Yes ☒ No

8. END USER INFORMATION: Are you an end user on an existing water system? ☐ Yes ☒ No

If yes, who is the operator of the water system? Wailuku Water Company

9. REGISTRATION AND DECLARATION OF WATER USE: Do you have a Registration and Declaration of Water Use with the Commission?

☒ Yes. List the file reference name(s): Wailuku Agrib

☐ No

10. STREAM DIVERSION WORKS PERMIT (SDWP):

Have you ever been issued a SDWP by the Commission?

☐ Yes. List the permit number(s):

☒ No

NOTE: Signing below indicates that the signatories understand and affirm that the information provided on this application is accurate and true to the best of their knowledge. Furthermore, the signatories understand that: 1) if necessary, further information may be required before the application is considered complete; 2) if a water use permit is granted by the Commission, this permit will be subject, but not limited, to any existing legal uses, changes in sustainable yields and instream flow standards, Hawaiian Home Lands uses, and any other conditions imposed by the Commission; and 3) the applicant is responsible for paying the required public notice fees associated with this application.

11. APPLICANT		12. SOURCE LANDOWNER	
Signature Avery B. Chumbley		Signature	
Print Avery B. Chumbley		Print	
Date 4-20-09		Date	

**SURFACE WATER USE PERMIT APPLICATION
EXISTING USE (NA WAI EHA, MAUI)**

TABLE 1: 12-MONTH AVERAGE DAILY USE
Measured or Calculated Use of Water at the Source: (Check one) ☒ Stream ☐ Ditch ☐ Auwai
As of the Effective Date of Designation, April 30, 2008

MONTH / YEAR	AVERAGE DAILY USE FOR THE MONTH IN GALLONS PER DAY (GPD)	Check one item per box				OTHER Please describe
		METERED	ESTIMATED	ACTIVE BUT UNKNOWN	INACTIVE	
May 2007	3,258,000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See attached sheet labeled
June 2007	2,291,000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Table 1 attachment and executive
July 2007	4,278,000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	summary of the Broadbent Study
August 2007	3,099,000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
September 2007	3,408,000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
October 2007	3,587,000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
November 2007	3,283,000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
December 2007	3,533,000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
January 2008	3,145,000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
February 2008	2,797,000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
March 2008	3,116,000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
April 2008	2,291,000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SUM OF AVERAGE DAILY USE FOR THE MONTH	38,086,000	GPD				
AVERAGE DAILY USE (Average of the above)	3,174,000	GPD				

SURFACE WATER USE PERMIT APPLICATION EXISTING USE (NA WAI EHA, MAUI)

TABLE 2: LAND USE CONSISTENCY/EFFICIENCY

(Attach additional copies of Table 2 if necessary)

LAND USE CONSISTENCY						EFFICIENCY OF USE				
1. PURPOSE / WATER USE CATEGORY	2. USE TMK ATTACH THE FOLLOWING: • Property tax map, showing use location in reference to established property boundaries • Photograph of the area of use	3. STATE LAND USE DISTRICT	4. CDUP REQ'D Enter either: Yes and Date approved, or Yes and not acquired, or No	5. COUNTY ZONING CODE	6. SMAP REQ'D Enter either: Yes and Date approved, or Yes and not acquired, or No	7. REQUESTED QUANTITY OF USE Gallons per Day (GPD)	8. SUB- METERED? (Yes or No)	9. UNITS OR NET ACREAGE	10. APPLICANT'S JUSTIFICATION FOR REQUESTED QUANTITY OF USE FOR ITEM 7. If applicable, attach sheets to show how this number was calculated. For irrigation uses, fill in Table 3.	
Uses that require potable (drinking) water										
	____ - ____ - ____ : ____ Zone Sector Plat Parcel									
	____ - ____ - ____ : ____ Zone Sector Plat Parcel									
	____ - ____ - ____ : ____ Zone Sector Plat Parcel									
	____ - ____ - ____ : ____ Zone Sector Plat Parcel									
TOTAL POTABLE USE							GPD			
Uses that do not require potable water										
	____ - ____ - ____ : ____ Zone Sector Plat Parcel									See Exhibit B
	____ - ____ - ____ : ____ Zone Sector Plat Parcel									
	____ - ____ - ____ : ____ Zone Sector Plat Parcel									
	____ - ____ - ____ : ____ Zone Sector Plat Parcel									
TOTAL NON-POTABLE USE						3,174,000	GPD			
TOTAL USE REQUESTED (Sum of Total Potable Use and Total Non-Potable Use above) =						3,174,000	GPD			
If total use requested is not equal to the total monthly average in Table 1, please explain.										
In accordance with §174C-51(5), please explain if there are any limitations (legal, contractual, etc.) on the use(s) of water described above.										

**SURFACE WATER USE PERMIT APPLICATION
EXISTING USE (NA WAI EHA, MAUI)**

TABLE 3: IRRIGATION INFORMATION

List all crops as separate line items and include landscape and golf course irrigation, grown in the 12 months prior to April 30, 2008. Attach additional copies of Table 3 if necessary.

1. USE TAX MAP KEY (TMK) Attach map outlining area and photo.	2. CROP	3. TOTAL ACREAGE	4. NET IRRIGATED ACREAGE	5. BEGIN ROWTH PERIOD (Month)	6. END GROWTH PERIOD (Month)	7. IRRIGATION SYSTEM (Refer to instructions.)	8. IRRIGATION PRACTICE (Refer to instructions.)
<div><div></div><div>Zone</div></div> <div><div>-</div><div>Sector</div></div> <div><div>-</div><div>Plat</div></div> <div><div>:</div><div>Parcel</div></div>							
<div><div></div><div>Zone</div></div> <div><div>-</div><div>Sector</div></div> <div><div>-</div><div>Plat</div></div> <div><div>:</div><div>Parcel</div></div>							
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<div><div></div><div>Zone</div></div> <div><div>-</div><div>Sector</div></div> <div><div>-</div><div>Plat</div></div> <div><div>:</div><div>Parcel</div></div>							
<div><div></div><div>Zone</div></div> <div><div>-</div><div>Sector</div></div> <div><div>-</div><div>Plat</div></div> <div><div>:</div><div>Parcel</div></div>							
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<div><div></div><div>Zone</div></div> <div><div>-</div><div>Sector</div></div> <div><div>-</div><div>Plat</div></div> <div><div>:</div><div>Parcel</div></div>							

**SURFACE WATER USE PERMIT APPLICATION
EXISTING USE (NA WAI EHA, MAUI)**

TABLE 4: ALTERNATIVES ANALYSIS

	Potable Alternatives Attach additional sheets if necessary.	Non-Potable Alternatives Attach additional sheets if necessary.
Municipal sources	Wailuku Water Company use of municipal water for customers is cost prohibitive	Water for non potable use is not available from the municipal source
Wastewater reuse	The Kahului Wastewater Treatment plant has no feeder lines in the area, the cost to install a distribution line from the treatment plant to Wailuku's Ditch System is cost prohibitive	The Kahului Wastewater Treatment plant has no feeder lines in the area, the cost to install a distribution line from the treatment plant to Wailuku's Ditch System is cost prohibitive
Ditch system	There are no other ditch system available	There are no other ditch system available
Desalinization	There are no Desalinization plants on Maui	There are no Desalinization plants on Maui
Ground water	Pumping of ground water is cost prohibitive	Pumping of ground water is cost prohibitive
Other (specify)	Storm Water reclamation has no facilities as of this date	Storm Water reclamation has no facilities as of this date

PUBLIC INTEREST

§174C-2(c) states that: *The state water code shall be liberally interpreted to obtain maximum beneficial use of the waters of the State for purposes such as domestic uses, aquaculture uses, irrigation and other agricultural uses, power development, and commercial and industrial uses. However, adequate provision shall be made for the protection of traditional and customary Hawaiian rights, the protection and procreation of fish and wildlife, the maintenance of proper ecological balance and scenic beauty, and the preservation and enhancement of waters of the State for municipal uses, public recreation, public water supply, agriculture, and navigation. Such objectives are declared to be in the public interest.*

Explain below how the uses in your application are consistent with the public interest as described above. Attach additional sheets if necessary.

Wailuku Water Company, LLC and its predecessors have operated its ditch system to deliver waters diverted from the Na Wai Eha stream as far back as the mid -1800's. Initially in 1862 the ditch systems delivered waters diverted from the streams to irrigate sugarcane. In 1882 the Spreckles Ditch was constructed and at the turn of the century the Iao and Waiehu Ditch systems were completed, with the Waihee Ditch systems developed in 1905.

Wailuku and its predecessors have used the system to divert water from the streams to deliver to users for agricultural, industrial, commercial and domestic purposes from the inception of the system to the present. The delivery of water has been to maximize the beneficial uses of waters for such purposes. This system has been and will be used to obtain maximum beneficial uses of these waters.

The instant application is for system losses from evaporation, seepage and operational requirements of the system. The system losses are reasonable losses consistent with the delivery capacity of the system and the on going maintenance, repair and upgrading of the system.

Wailuku Water Company

Stream Diversions and Gauging

Stream:	TMK:	Exhibit A Diversion:	Gauging:	Date Installed
Waihee Stream	TMK: 3-2-014-0001	Waihee Ditch (6022)	Weir with 24 Hour gauge	1907
Waihee Stream	TMK: 3-2-014-0001	Spreckels Ditch (6022)	Weir with 24 Hour gauge	Unknown
North Waiehu Stream	TMK: 3-2-014-0001	North Waiehu Ditch (6023)	Concrete Weir	Unknown
Iao Stream	TMK: 3-3-003-0003	Iao-Maniania Ditch (6024)	Weir with 24 Hour gauge	Unknown
Iao Stream	TMK: 3-3-003-0003	Iao-Waikapu Ditch (6024)	Weir with 24 Hour gauge	Unknown
Waikapu Stream	TMK: 3-6-003-0001	South Waikapu Ditch (6001)	Concrete Weir	Unknown
Waikapu Stream	TMK: 3-5-011-0049	Waihee Ditch (6001)	Visual Estimate	Unknown
Waikapu Stream	TMK: 3-5-011-0049	Reservoir 6 (6001)	Visual Estimate	Unknown

01/28/09

Wailuku Water Company
Table 1 Attachment

Wailuku Water Company uses a loss percentage of 7.34% of total diversions as measured from the seven stream diversions. On Waihee Stream there are two diversions, Waihee Ditch diversion and the Spreckles Ditch diversion. On North Waiehu Stream there is the North Waiehu Ditch diversion. On Iao Stream there is the Iao diversion. On Waikapu Stream, there is the South Waikapu Ditch diversion, Waihee Ditch diversion and the Reservoir 6 diversion. Several intakes are closed, Field 1 intake on Waihee Stream, Waihee Ditch intake on North Waiehu Stream and Everett Ditch intake on Waikapu Stream.

In 1988 Edward Broadbent was commissioned by then Wailuku Agribusiness Company, Inc. to do a study on Losses in and Kuleana Uses from Ditch Systems, Losses in Reservoirs, Condition of Flow Measurement Stations. Attached is the summary of the study.

In the study, at a flow of 55 MGD the losses plus kuleana flow equaled 11.5 MGD. The kuleana uses is reported at 5.3 MGD resulting in a net loss of 6.2 MGD at 55 MGD. The 6.2 MGD losses from a total flow of 55 MGD equal an 11.3% loss. Wailuku Water Company in using the study did work on its ditches and saved an estimated 2.16 MGD. This resulted in a 4.04 net loss from the previous total of 6.2 MGD. The 4.04 MGD loss in 55 MGD flow is the current loss used at 7.34%.

EXECUTIVE SUMMARY

Measurements and observations on about 89% of the length of Wailuku Agribusiness' six main mountain supply ditches, and the six remaining storage reservoirs, showed an averaged total of about 11.5 million gallons per day ("MGD") diverted to kuleana users and lost by leakage and/or seepage. The ditches showed about 92% of the total. These uses and losses were about 19% of the average inflow total of 55.0 MGD. Losses under median conditions are probably less as explained in Section B of this report.

All kuleana diversions were from the Spreckels Ditch; separation of these diversions from true losses will require additional measurements. The largest losses only, 3.7 and 4.9 MGD, were from the Waihee Ditch between Waihee and Wailuku. This ditch portion was also highest in per mile loss; it should be the first priority of a loss reduction program.

Measurements and observations of the six permanent flow measurement stations showed considerable inaccuracies due to structural deterioration, "drowned" hydraulic conditions and incorrect zero flow settings of indicators and instruments. Four of the operating stations over-indicated flows, with the ratio of indicated to measured flows from 1.06 to 2.48; one under-indicated by a ratio of .92.

Since the Waihee Ditch flow measurement is the primary indicator of mountain supplies in Wailuku Agribusiness' water management, the rehabilitation of its Parshall Flume should be first priority in a measuring station rehabilitation program.

Wailuku Water Co.

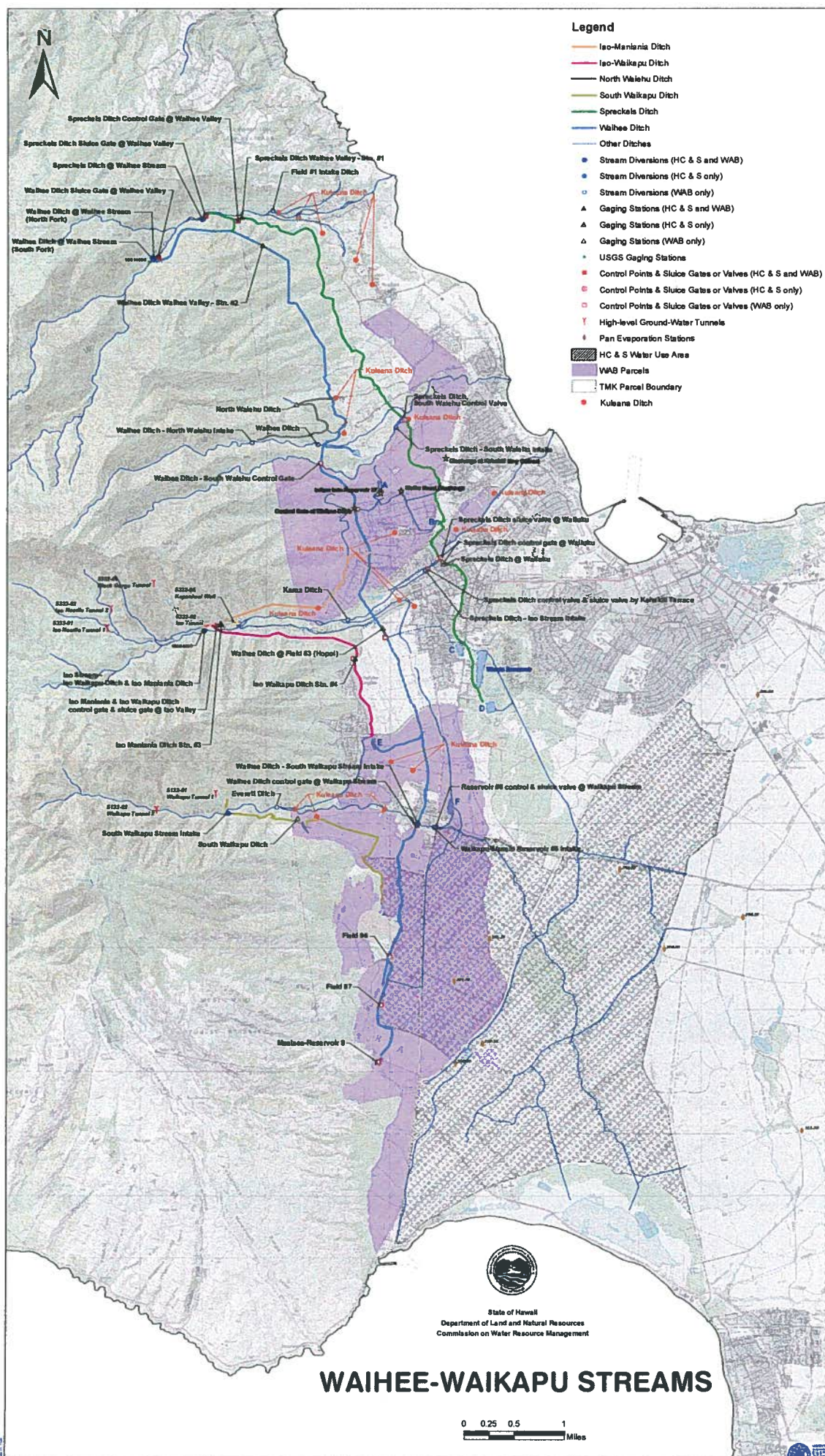
Exhibit B

Table 2: Land Use Consistency/Uses that do not require potable water

2. TMK:	3. State Land Use	4. CDUP Required	5. County Zoning Code	6. SMAP Required	7. Requested Quantity of Use	8. Sub Metered	9. Units or Net Acreage	10. Applicant's Justification
3-2-01-01	Agricultural	No	Ag & Interim	No		No	GPD	Ditch System Losses
3-2-13-15	Agricultural	No	Ag & Interim	No		No	GPD	Ditch System Losses
3-2-14-001	Conservation	Yes, Not acquired	Interim	No		No	GPD	Ditch System Losses
3-2-17-18	Agricultural	No	Ag, Rural 1/2 acre	No		No	GPD	Ditch System Losses
3-3-01-033	Urban	No	W/K PD 2	No		No	GPD	Ditch System Losses
3-3-02-01	Conservation	Yes, Not acquired	Ag & Interim	No		No	GPD	Ditch System Losses
3-3-02-01	Agricultural	No	Ag & Interim	No		No	GPD	Ditch System Losses
3-3-02-020	Agricultural	No	Agricultural	No		No	GPD	Ditch System Losses
3-3-02-30	Agricultural	No	Ag & Interim	No		No	GPD	Ditch System Losses
3-3-03-003	Conservation	Yes, Not acquired	Interim	No		No	GPD	Ditch System Losses
3-3-017-186	Agricultural	No	Ag	No		No	GPD	Ditch System Losses
3-5-01-01	Agricultural	No	Ag	No		No	GPD	Ditch System Losses
3-5-01-50	Agricultural	No	Ag & R-3 Res	No		No	GPD	Ditch System Losses
3-5-01-67	Urban	No	W/K PD 3	No		No	GPD	Ditch System Losses
3-5-02-02	Agricultural	No	Ag	No		No	GPD	Ditch System Losses
3-5-02-03	Agricultural	No	Ag	No		No	GPD	Ditch System Losses
3-5-02-07	Agricultural	No	Ag	No		No	GPD	Ditch System Losses
3-5-03-001	Conservation	Yes, Not acquired	Interim & Rural 1/2 Ac	No		No	GPD	Ditch System Losses
3-5-04-18	Agricultural	No	Ag	No		No	GPD	Ditch System Losses
3-5-04-097	Urban	No	Ag	No		No	GPD	Ditch System Losses
3-5-04-098	Urban	No	Ag	No		No	GPD	Ditch System Losses
3-5-11-49	Urban	No	Ag	No		No	GPD	Ditch System Losses
3-5-11-81	Urban	No	Ag	No		No	GPD	Ditch System Losses
3-5-016-108	Urban	No	Ag	No		No	GPD	Ditch System Losses
3-5-016-109	Urban	No	Ag	No		No	GPD	Ditch System Losses
3-5-032-108	Urban	No	R-2 Residential	No		No	GPD	Ditch System Losses
3-5-032-109	Urban	No	R-2 Residential	No		No	GPD	Ditch System Losses
3-5-032-110	Urban	No	R-2 Residential	No		No	GPD	Ditch System Losses
3-6-03-001	Conservation	Yes, Not acquired	Interim	No		No	GPD	Ditch System Losses
3-6-04-03	Agricultural	No	Ag	No		No	GPD	Ditch System Losses
3-6-04-06	Agricultural	No	Ag	No		No	GPD	Ditch System Losses
3-6-04-12	Agricultural	No	Ag	No		No	GPD	Ditch System Losses
3-6-05-68	Agricultural	No	Ag	No		No	GPD	Ditch System Losses

Total Non-Potable Use
Total Use Requested

3,174,000 GPD
3,174,000 GPD



Surface Water Use Permit
Pictures

1. Picture of Waihee Ditch Intakes North and South
2. Picture of Spreckels Ditch and North Waiehu Ditch Intakes
3. Picture of Iao Intake and South Waikapu Ditch Intake
4. Picture of Waihee Ditch on Waikapu Stream Intake and Reservoir 6 Intake
5. Picture of Waihee Ditch and Spreckels Ditch Gauges
6. Picture of North Waiehu and South Waikapu Ditch Gauges
7. Pictures of Iao-Waikapu and Iao-Maniania Ditch Gauges



Waihee Ditch Intake North



Waihee Ditch Intake South



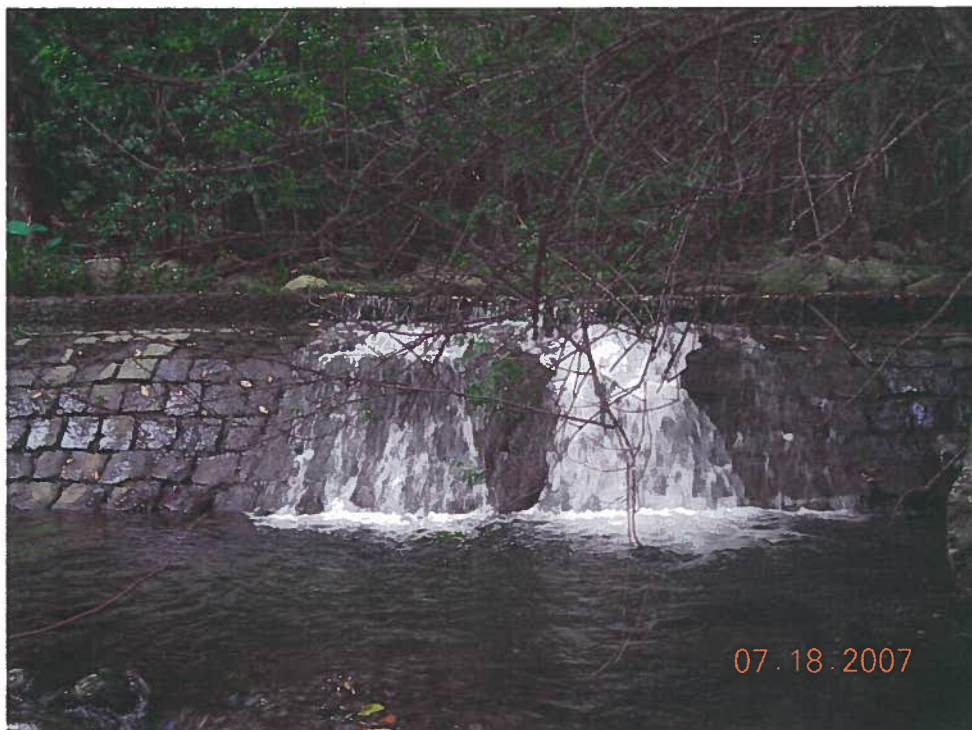
Spreckels Ditch Intake



North Waiehu Ditch Intake



Iao Stream Intake



South Waikapu Ditch Intake



Reservoir #6 Intake



Waihee Ditch Intake on Waikapu Stream



Waihee Ditch Gauging Station



Spreckels Ditch Gauging Station



North Waiehu Ditch Gauge



South Waikapu Ditch Gauge



Iao Maniania Ditch Gauge



Iao Waikapu Ditch Gauge